

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor device comprising:
a semiconductor substrate formed with pads;
a passivation film formed on a surface of said semiconductor substrate on a pad forming side; and

lands for connection to external terminals, said lands being formed on an insulating film formed on a surface of said passivation film opposite to said semiconductor substrate,

wherein:

said ~~pad~~pads and said ~~land~~lands are connected by a ~~conductive wiring line~~lines; and

~~a projection is~~ projections are formed on each of said ~~land~~lands at a ~~position~~positions where said ~~land~~ islands are connected to the external ~~terminal~~terminals.

2. (Currently Amended) A semiconductor device comprising:
a silicon substrate formed with pads;
a passivation film formed on a surface of said silicon substrate on a pad forming side;

lands for connection to external terminals, said lands being formed on the surface of said silicon substrate on the pad forming side; and

a-wiring ~~line~~lines connecting said ~~pad~~pads and said ~~land~~lands,

wherein:

an insulating film is formed between said passivation film and said ~~land~~lands;
~~a projection is~~projections are formed on said ~~land~~lands on a surface opposite
to said silicon substrate; and
said ~~projection is~~projections are connected to the external ~~terminal~~terminals.

3. (Currently Amended) A semiconductor device comprising:

a semiconductor substrate formed with pads;
a passivation film formed on a surface of said semiconductor substrate on a
pad forming side;
lands for connection to external terminals, said lands being formed on the
surface of said semiconductor substrate on the pad forming side; and
a wiring ~~line~~lines connecting said ~~pad~~pads and said ~~land~~lands,
wherein said wiring ~~line includes~~ lines each include a first wiring line
connected to one of said ~~pad~~pads and a second wiring line connected to one of said
~~land~~lands.

4. (Currently Amended) A semiconductor device comprising:

a silicon substrate formed with pads;
a passivation film formed on a surface of said silicon substrate on a pad
forming side;
lands for connection to external terminals, said lands being formed on the
surface of said silicon substrate on the pad forming side; and
a wiring ~~line~~lines connecting said ~~pad~~pads and said ~~land~~lands,
wherein:
said wiring ~~line includes~~ line each include a first wiring line connected to one of
said ~~pad~~pads and a second wiring line connected to one of said ~~land~~lands;

an insulating film is formed between said passivation film and said ~~land~~lands;
~~a projection is~~projections are formed on said ~~land~~lands on a surface opposite
to said silicon substrate; and
said ~~projection is~~projections are connected to the external ~~terminal~~terminals.

5. (Currently Amended) A semiconductor device comprising:
a semiconductor substrate formed with pads;
a passivation film formed on a surface of said semiconductor substrate on a
pad forming side;
lands for connection to external terminals, said lands being formed on the
surface of said semiconductor substrate on the pad forming side;
the external ~~terminal~~terminals being connected to said ~~land~~lands; and
~~a wiring line~~lines connecting said ~~pad~~pads and said ~~land~~lands,
wherein an insulating protective film is formed on the surface of said
semiconductor substrate on the pad forming side in an area other than the external
terminals.

6. (Currently Amended) A semiconductor device comprising:
a semiconductor substrate formed with pads;
a passivation film formed on a surface of said semiconductor substrate on a
pad forming side;
~~a conductive wiring line~~lines connected to the ~~pad~~pads on said semiconductor
substrate;
lands connected to said conductive wiring ~~line~~lines;
~~a projection~~projections formed on said ~~land~~lands;
~~an external terminal~~terminals connected to said ~~projection~~projections;

a first protective film formed between said semiconductor substrate and said lands and being in contact with said lands; and

a second protective film having an exposed surface on an external terminal forming side.

7. (Currently Amended) A semiconductor device comprising:

a silicon substrate formed with pads;

a passivation film formed on a surface of said silicon substrate on a pad forming side;

lands for connection to external terminals, said lands being formed on the surface of said silicon substrate on the pad forming side; and

~~a wiring lines~~ connecting said ~~padpads~~ and said ~~landlands~~,

wherein:

~~each of said wiring lines~~ includes a first wiring line connected to one of said ~~padpads~~ and a second wiring line connected to one of said ~~landlands~~;

a first region formed with a first insulating film is formed between said passivation film and said ~~landlands~~; and

a second insulating film is formed between said passivation film and said lands, ~~a projection is~~ and wherein projections are formed on said ~~landlands~~ on a surface opposite to said silicon substrate, and the ~~projection is~~ projections are connected to the external ~~terminal~~ terminals.

8. (Original) A semiconductor device according to claim 6, wherein the second protective film is made of material having an elastic modulus lower than the first protective film.

9. (Currently Amended) A semiconductor device according to any one of claims 1, 2, 4, 6, 7 and 8, wherein the ~~projection is~~projections are positioned in a projected ~~area~~areas of said ~~land~~lands.

10. (Currently Amended) A semiconductor device according to any one of claims 1, 2, 4, 6, 7 and 8, wherein the external ~~terminal~~terminals and the ~~projection~~projections are respectively each bonded via a metal thin film formed on a surface of the projection.

11. (Currently Amended) A semiconductor device according to any one of claims 1 to 10, wherein [[,]] in a semiconductor module having the semiconductor device mounted on a printed circuit board via the external terminals, a bonding area between a bonding pad of the printed circuit board and one of the external ~~terminal~~terminals is set larger than a bonding area between one of the ~~projection~~projections and said one of the external ~~terminal~~terminals in a direction of disposing the external terminals.

12. (Currently Amended) A semiconductor device according to any one of claims 1 to 10, wherein [[,]] in a semiconductor module having the semiconductor device mounted on a printed circuit board via the external terminals, an area near a bonding area between a bonding pad of the printed circuit board and one of the external ~~terminal~~terminals is covered with resin.

13. (New) A semiconductor device according to claim 1 or 2, wherein said projections each include a first portion which extends into a corresponding one of said external terminals and a second portions located between a corresponding one of said lands and said first portion.

14. (New) A semiconductor device according to claim 13, wherein each of said first portions of said projections has substantially the same width as a corresponding one of said second portions of said projections.

15. (New) A semiconductor device according to claim 13, wherein each of said first portions is wider than a corresponding one of said second portions.

16. (New) A semiconductor device according to claim 15, wherein said insulating film extends into an area between said wider first portions and said corresponding lands.